

IN THE CLAIMS

Please amend claims 44, 45, and 63 as indicated below. A complete listing of claims are presented below for the convenience of the Examiner.

1-43. (Cancelled)

44. (Currently Amended) An x-ray technique-based nonintrusive inspection apparatus (8)

which includes:

a base frame (38);

tunneling (12, 14, 16) mounted to the base frame and having a first end (42) and a second end (44) opposing the first end;

an x-ray source (150) which, when operated, creates radiation within the tunneling;

paneling (510) located around the tunneling and the x-ray source so that the paneling and the base frame jointly define a housing (512) around the tunneling and the x-ray source, the housing having an entry aperture (514) in proximity to the first end, and an exit aperture (515) in proximity to the second end of the tunneling, and having an air inlet opening (522) and an air outlet opening (524); and

a fan (538) positioned to control a ratio of air flow from an air inlet duct (526) in flow communication with the air inlet opening (522) and an air return duct (536) in flow communication with the air outlet opening (524) draw air through the air inlet opening into the housing, the housing being formed, the entry aperture sealing with the first end of the tunneling to an extent sufficient, and the exit aperture sealing with the second end of the tunneling to an extent sufficient so that the confines of the housing are at a higher pressure than externally of the housing when the fan draws air into the housing.

45. (Currently Amended) An x-ray technique-based nonintrusive inspection apparatus (8)

which includes:

a support frame (10);

a CT scanner subsystem (38) rotatably mounted to the frame, the CT scanner subsystem having a gantry (148) defining at least one air passage (542), and a radiator (534) mounted to the gantry;

a plenum (532) which is mounted to the frame so that the gantry rotates relative to the plenum, the plenum and the gantry jointly defining a confined volume; and

a fan (538), wherein, when the fan is operated, air is directed from the fan into the confined volume, from the confined volume into the air passage, and from the air passage through the radiator, and wherein the fan controls a ratio of air flow through an air inlet duct (526) and an air return duct (536) so that air in the confined volume is above atmospheric pressure .

46. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus

according to claim 45 which includes:

an air-conditioning unit (528); and

a duct (530) connecting the air-conditioning unit with the plenum so that air is directed from the air-conditioning unit through the duct into the confined volume.

47. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus

according to claim 45 wherein the gantry defines an enclosure, the air being directed from the air passage into the enclosure in the gantry and from the enclosure in the gantry through the radiator.

48. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 45 which includes tunneling (12, 14, 16) mounted to the support frame and having a first end (42) and a second end (44) opposing the first end, and paneling (510) located around the tunneling and the CT scanner subsystem so that the paneling and the support frame jointly define a housing (512) around the tunneling and the CT scanner subsystem, the housing having an entry aperture (514) in proximity to the first end, and an exit aperture (515) in proximity to the second end of the tunneling and having an air inlet opening (522) wherein the fan is positioned to draw air through the air inlet opening (522), into the housing, the housing, being formed, the entry aperture sealing with the second end of the tunneling to an extent sufficient so that the confines of the housing are at a higher pressure than externally of the housing when the fan draws air into the housing.

49. (cancelled)

50. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 44, further comprising:

a support structure (40) having a lower end secured to the base frame and extending upward therefrom; and

a CT scanner subsystem (34) rotatably mounted to the support structure, the x-ray source forming part of the CT scanner subsystem and rotating therewith, the housing being externally of the CT scanner subsystem.

51. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 50 wherein the CT scanner subsystem has a gantry (148) defining at least one air passage (542), and a radiator (534) mounted to the gantry, further comprising:

a plenum (532), the gantry rotating relative to the plenum, the plenum and the gantry jointly defining a confined volume, wherein, when the fan is operated, air is directed from the fan into the confined volume, from the confined volume into the air passage, and from the air passage through the radiator.

52. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 51 wherein the air pressurizes the housing after flowing through the radiator.

53. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 51 which includes:

an air-conditioning unit (528); and

a duct (530) connecting the air-conditioning unit with the plenum so that air is directed from the air-conditioning unit through the duct into the confined volume.

54. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus (8) according to claim 44 wherein the air flows through the fan before flowing through the housing.

55. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus (8) according to claim 44 wherein the air is recirculated by the fan after pressurizing the housing.

56. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 55 wherein the fan is located externally of the housing.

57. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 44, further comprising:

a conveyor system (20) having at least one belt (50), at least partially located in the tunneling, which, upon movement, is capable of transporting an object through at least a portion of the tunneling.

58. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 57, further comprising:

a support structure (40) having a lower end secured to the base frame and extending upward therefrom; and

a CT scanner subsystem (34) rotatably mounted to the support structure, the x-ray source forming part of the CT scanner subsystem and rotating therewith, the housing being externally of the CT scanner subsystem and the belt transporting the object through the CT scanner subsystem.

59. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 58, further including an x-ray line scanner subsystem (32) radiating the object prior to being radiated by the CT scanner subsystem.

60. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 45, further comprising:

paneling (510) around the CT scanner subsystem.

61. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 60 wherein the air enters a housing (512) defined within the paneling after flowing through the radiator.

62. (Previously Presented) An x-ray technique-based nonintrusive inspection apparatus according to claim 61 wherein the housing is defined between the CT scanner subsystem and the paneling.

63. (Currently Amended) A method of operating an x-ray technique-based nonintrusive inspection apparatus (8), which includes:

operating an x-ray source (150) to radiate confines of tunneling (12, 14, 16); and

operating a fan to ~~draw~~ control a ratio of air flowing into and out of a housing (512) defined externally of the tunneling and internally of paneling (510) around the tunneling, so that the air in pressurizing the housing is pressurized.

64. (Previously Presented) The method of claim 63 wherein the air is recirculated by the fan after pressurizing the housing.

65. (Previously Presented) The method of claim 63, further comprising:

rotating a CT scanner subsystem (34), the x-ray source forming part of the CT scanner subsystem and rotating therewith.

66. (Previously Presented) The method of claim 65, further comprising:

directing the air through the CT scanner subsystem and through a radiator of the CT scanner subsystem.

67. (Previously Presented) The method of claim 65, further comprising:  
conveying an object (60) on a belt (50) through the CT scanner subsystem.